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ABSTRACT

During the 1985-86 school year the following three New York City high schools received federal funds under Chapter II, Subchapter C, for the development of special programs in the following subjects: (1) A. Philip Randolph--engineering; (2) Townsend Harris--the humanities; and (3) The Paul Robeson School--business and technology. Each of these programs integrated some combination of features such as honors level curricula, elective courses, career education, college faculty participation, enrichment activities, and internships into a cohesive program structure. Staff interviews and student performance data indicate that all three programs met their general goals of providing rigorous academic training and increasing students' awareness of career and higher education opportunities. However, only the Townsend Harris program met its specific evaluation objective. The difference between staff perceptions and the attainment of specific evaluation objectives may be a result of the use of objective criteria that were too difficult to accomplish in a one-year program. The programs are described, and recommendations for improving each are made. Data are presented on three tables. (BJV)

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CHAPTER II
1985-86
END-OF-YEAR REPORT

OEA Evaluation Report

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Evaluation Section Report
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Project # 5001-56-61820

April, 1987

CHAPTER II
1985-86
END-OF-YEAR REPORT

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SUMMARY

Three schools received federal funds under Chapter II, Subchapter C for the development of special programs during the 1985-86 school year. A. Philip Randolph, Townsend Harris, and Paul Robeson High Schools created programs which focused on engineering, the humanities, and business and technology respectively. Each of these programs integrated some combination of features such as honors level curricula, elective courses, career education, college faculty participation, enrichment activities, and internships into a cohesive program structure.

Staff interviews and student performance data indicate that all three programs met their general goals of providing rigorous academic training and increasing students' awareness of career and higher education opportunities within their area of interest. However, only one of the three schools met its specific evaluation objective. The difference between staff perceptions and the attainment of specific evaluation objectives may be a result of the use of objective criteria which were too difficult to accomplish in a one-year program.

The programs' structure and implementation varied significantly so that the three programs are treated separately within this report. Among the recommendations are the following.

For A. Phillip Randolph:

- Increase student enrollment, particularly female representation, and implement the remaining components of the program (i.e. lab classes, and college faculty participation).

- Develop a larger pool of potential students so that entrance criteria can be raised thereby assuring that accepted students are able to benefit from the rigorous course of study compromising the curriculum.

For Townsend Harris:

- Increase the physical space available in order to provide a setting adequate for the enriched program.

- Free staff to attend development programs, and purchase materials for use in enrichment activities and to attract guest speakers.

For Paul Robeson:

- The curriculum should be modified so that the time spent on basic electronics is increased before large scale projects (i.e. building radios, computers) are undertaken.

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I. INTRODUCTION

PROGRAM BACKGROUND

During the 1985-86 academic year three New York City high schools implemented separate programs with the assistance of Chapter II-C funds for the development of special programs. The schools were A. Philip Randolph, Townsend Harris, and The Paul Robeson School for Business and Technology. Each program was created through consultation with various constituencies including teachers and school administrators, students, parents, school board members, college professors, and community representatives. Each program stressed a particular area of study and was designed to prepare students to attain entry level employment or pursue college level education related to that area. A. Philip Randolph organized a pre-engineering program, one of several programs which make up the school's Academic Professions emphasis. The focus of the Townsend Harris program was the humanities including literature, and modern and classical languages. Paul Robeson is a new school established in September, 1985 for business and technology. The Chapter II program at Robeson supported this new school during its first year of operation.

PROGRAM OBJECTIVES

The general objective of all three programs was to provide students with rigorous academic training and an increased awareness of higher education and career opportunities. The specific objective for each program is listed within the program description of that school.

SCOPE OF THE EVALUATION

The evaluation team utilized several methodologies including observations, staff interviews, and the review of program records. An evaluator visited each school to observe program structure and implementation and to interview principals, assistant principals, guidance counselors, and teachers. Interviews with principals and assistant principals focused on student selection procedures and characteristics, course offerings, college and consulting group contacts, program design, evaluation procedures, and a variety of activities created to meet the specific needs of particular programs (e.g., enrichment activities, internships). Interviews with guidance counselors focused on the types of supportive services provided. Interviews with teachers elicited their perspectives concerning curriculum, program activities, student abilities, and student attitudes. All staff members judged program strengths and weaknesses and suggested recommendations for program modifications. The evaluation team collected quantitative data from program records concerning academic performance and student awareness of career opportunities.

SCOPE OF THIS REPORT

The fact that each program was developed to meet the needs of quite different schools and student populations resulted in significant differences in program structure and implementation. Therefore, each program is treated separately in this report. Chapter II contains program structure, implementation, outcome data, conclusions, and recommendations for the program at A. Philip Randolph. The same information for Townsend Harris is presented in Chapter III, and for Paul Robeson in Chapter IV.

II. A. PHILIP RANDOLPH HIGH SCHOOL

PROGRAM STRUCTURE AND IMPLEMENTATION

Description

The program at A. Philip Randolph was based on a proposal developed through the joint efforts of Randolph staff and a Policy Advisory Board consisting of faculty members from the City College of New York. Randolph staff gathered additional information by visiting other city schools offering similar programs. City College provided faculty who helped to develop the content of courses and also provided science lab facilities. The Randolph program offered a course of study for students interested in entering the field of engineering. In particular the program seeks to increase minority representation in engineering. This pre-engineering program expanded the offerings of the school's Academic Professions emphasis which already included a School of Business and a nursing program. The Pre-engineering program contained several features designed to provide a comprehensive curriculum. First, a rigorous course of study in honors classes was constructed for the major subject areas of mathematics, science, language arts, social studies, and foreign languages. Second, elective courses including labs, were specifically designed to teach students basic engineering principles and concepts in order to prepare them for college level engineering programs. Third, a career education component was included to increase student awareness and understanding of engineering careers.

In addition, program administrators requested funding to reduce class size from 34 to 25 students per class and to provide additional counseling

services and home contacts considered "necessary ingredients in a program requiring individualized commitment and career awareness."

Evaluation Objective

The evaluation objective for the pre-engineering program was:

- Seventy-five percent of the participating students would successfully complete all required course work.

Student Selection and Characteristics

Although the program design included curriculum and materials for grades nine through twelve, the program served ninth graders only in its first year. Applications were accepted from all five boroughs. Students accepted into Randolph's Academic Professions Program completed a Career Interest Survey to determine the academic profession in which they were most interested.

Program staff reviewed the eighth grade report cards of those students who selected the pre-engineering program, paying particular attention to math grades and attendance records. They also administered an additional placement test focusing on math skills. This process led to the selection of 29 ninth-grade students (22 males, seven females). This figure is substantially less than the proposed 100, reflecting a shortage of interested students able to meet entrance requirements. According to school staff, although an effort was made to select students according to the 25-50-25 formula (25 percent with reading scores above grade level, 50 percent at grade level and 25 percent below grade level), interest, attendance and additional academic criteria eliminated below grade level students so that approximately half of the accepted students were above and the remaining half were at grade level.

Staff

The proposal for Chapter II funding provided for 13 new professional positions including an assistant principal, six teachers, a psychologist, a college liaison, a project specialist, a parent liaison, a secretary, a school aide, and a laboratory technician. Because of the reduction in student enrollment (29 instead of the proposed 100), many of these positions were either split with other programs or not filled. The assistant principal for mathematics took on primary responsibility for organizing and implementing the program in addition to his regular duties. Teachers within each department were assigned to teach the pre-engineering students as one class of their regular course load. A guidance counselor was granted a caseload reduction and began working with the 29 pre-engineering students along with students in another academic professions program. The assistant principal for mathematics and several other program members became liaisons to City College, coordinating the college's contributions to the planning and operation of the program. Secretaries, school aides and laboratory assistants already on staff provided services to the pre-engineering students. The positions of parent liaison and project specialist were not filled.

Description of Courses

Students were block-programmed for eight periods a day including, English, global history, math, physical education, foreign language, math applications, biology, biology laboratory, and mechanical drawing. The math applications and mechanical drawing classes were the "elective" classes offered this year. The math applications course included lectures on the theory of numbers and number systems to develop students' under-

standing of mathematics as a basis for more experimental engineering work. The mechanical-drawing course introduced students to the use of scaled illustrations in engineering. Although the proposed program provided for honors curriculum in the major subject areas of mathematics, science, English, social studies, and foreign languages, this plan was abandoned when it became apparent that students were unable to meet the demands of an honors curriculum. A projected wood and/or metal shop course was eliminated because the school did not have the technical facilities needed.

Career Education

The program was designed to increase student awareness and understanding of engineering careers. Efforts to provide this information included: presentations by alumni of Randolph who are currently students in engineering programs at Columbia University and other schools; presentations by various members of the Randolph staff; and participation in a Board of Education sponsored career day.

Counseling Services

One counselor provided services to all 29 students in the pre-engineering program. This counselor had a reduced caseload and was responsible for the pre-engineering students as well as 120 students who participated in a pre-medical program. A variety of services were provided including: individual counseling sessions at least once a term to discuss issues related to school adjustment and specific personal problems; group discussions of study skills and common difficulties; high school, college, and career orientation classes; monthly meetings on attendance and academic performance with all program teachers; and parent contacts when needed.

College Faculty Participation

Professors from the Department of Physics and Department of Engineering at City College participated in the development of the pre-engineering program. Randolph staff met regularly with these professors to develop high school level pre-engineering courses, and to develop and identify appropriate curriculum, laboratory, and resource materials.

Although it was originally planned that the City College staff would act as consultants during the implementation of the program and throughout the entire year, these meetings had not occurred as of February due to difficulties arranging mutually convenient times. This had several consequences including the fact that feedback from students was not incorporated into the program, and new curriculum was not developed.

Staff Perceptions

Staff perceptions of students were generally positive. Most students were considered to have a commitment to entering the field of engineering and a willingness to work towards that goal. There was some concern over students' ability to perform up to the demands of honors level classes. While teachers reported that approximately 25 percent of the students were doing well, 50 percent were thought to be performing adequately, and the remaining 25 percent were referred to as doing poorly. The projected honors curricula developed for several classes were modified to match this deficiency in student skills. Students were considered to be somewhat immature "as all ninth graders are".* However, many staff members believed

*Only ninth graders participated in the program since 1985-86 was the first year of a four-year sequence with classes for each year requiring prerequisites from the previous year.

this tendency was exacerbated by block-programming which placed students together all day long "continuing the junior high school process", "eliminating the potential for meeting other students" and thus "prohibiting diversification". Program administrators commented that seven of the 29 students were dropped from the program due to poor performance and behavior problems. Finally, several staff members commented on the low number of female students (seven of 29) and the need to increase the percentage of females in the future.

All of the staff interviewed indicated general satisfaction with the curriculum. Staff believed courses provided a general foundation appropriate to prepare students to enroll in college level engineering programs. In addition, many staff believed felt that course work provided an opportunity for students to expose themselves to engineering classes and thus confirm or refute their initial interest.

Staff members spontaneously commented on several additional aspects of the program. They thought that the involvement of City College faculty made a significant contribution to the appropriateness of classes and the academic rigor of the curriculum. Although school staff believed that guest speakers and staff lectures on career awareness did not occur frequently enough, they considered these lectures to be excellent opportunities for students to receive realistic information concerning the nature and availability of positions. Dialogue between teachers and other staff was considered very helpful in monitoring performance of individual students and working through various difficulties in program structure. Staff perceived both the counselor's reduced load and the reduced class

size as providing students with the individual attention necessary to meet the increased demands of the program.

OUTCOME DATA

The general goal of the program at A. Philip Randolph was that students would comprehend basic engineering principles and concepts, and complete laboratory-related engineering activities. The specific evaluation objective for the program indicated that 75 percent of the students would successfully complete all required course work. The percentage of students passing courses during the spring term is presented in Table 1. As indicated in this table, students fell short of meeting the evaluation objective, 70 rather than 75 percent of the students successfully completed all of their required course work.* However, although students did not meet the overall objective presented in the program proposal, the data indicate that pass rates in six out of seven courses were at or above 93 percent.

*The data presented in Table 1 are for 27 students enrolled in the spring 1986 term. Not all of these students were those who entered the program in the fall. Of the 29 students enrolled in the fall 1985 term, one left the program when he moved outside the district and seven were dropped from the program because of poor performance. Six additional students entered the program at the beginning of the spring term and are included in the 27 student figure.

Table 1

Number and Percentage of Students at A. Philip Randolph High School Passing Courses During the Spring Term

Course	Number[a] Passing	Percent Passing
English	26	96
Global Studies	27	100
Sequential Math	25	93
Biology	21	78
Foreign Language	26	96
Technical Drawing	25	93
Math Applications	27	100
Passed All Subjects	19	70

[a]The total number of students enrolled in the program for spring was 27.

- Seventy percent of the students in the program passed all of their classes.
- Pass rates in six out of seven courses were at or above 93 percent.
- While the number of students passing each course were high (between 21 and 27), the number who passed all their courses was lower (19).

CONCLUSIONS AND RECOMMENDATIONS

The program at A. Philip Randolph provided students with an initial introduction to the field of engineering. Although not all major subject area classes were at honors level, the program provided a rigorous college preparatory curriculum. Elective courses equipped students with basic engineering skills while the career education component introduced students to careers in engineering. Although the evaluation objective was not met, the program provided students with a foundation in engineering as indicated by the high pass rates within individual courses.

The curriculum developed through the joint efforts of Randolph and City College staff was a major strength of the program. Elective classes provided students with the basics of engineering and an opportunity to sample engineering classes to confirm their interests. Dialogue between teachers in the program and the availability of a guidance counselor with a reduced case load both contributed to careful monitoring of student performance and providing the individual attention required by the students.

Several weaknesses were noteworthy and require attention in the future. The selection criteria employed were not sufficient to select students able to meet the demands of honors level courses. Cutbacks in personnel and technical facilities interfered with the implementation of the fully developed program. Although the current career education component provided some information concerning higher education and careers related to engineering, the frequency and diversity of presentation was limited. Finally, the use of block programming appears to have accentuated the propensity for disruptive student behavior.

Based on the findings of the evaluation, the following specific recommendations are made:

- Increase student enrollment, particularly female representation, and implement the remaining components of the program (i.e. lab classes, and college faculty participation).
- Develop a larger pool of potential students so that entrance criteria can be raised thereby assuring that accepted students are able to benefit from the rigorous course of study as well as to assure that the rigor of the curriculum is not compromised.
- Increase efforts to provide career awareness (i.e. lectures, trips, films).
- Build frequent staff meetings of all personnel into the program.
- Consider eliminating block-programming to decrease its contributions to behavior problems.

III. TOWNSEND HARRIS HIGH SCHOOL

PROGRAM STRUCTURE AND IMPLEMENTATION

Description

The Townsend Harris High School opened in September 1984. During its first year of operation it provided instruction only for an incoming ninth grade class. During the 1985-86 school year, Chapter II funds were used to extend the school by creating a tenth grade program. The incoming ninth grade in 1985-86 was supported by tax-levy funds.

The tenth grade program was developed by the Harris administration and faculty with the assistance of professors from Queens College, the Harris alumni association, members of the Queens Hall of Science, and local community groups. Administrators created the school to offer a course of study focusing on the humanities including: literature, history, fine arts, and both classical and modern languages. Harris students received a full range of science and mathematics courses within this liberal arts context. The curriculum was designed to provide varied learning experiences including traditional classes, study circles, interaction with teachers and scholars, enrichment activities, a comprehensive internship, and a career awareness component.

The general aims of the program were: first, to offer accelerated curriculum to meet the abilities, interests, and skills of students; second, to prepare students for participating in college level courses when they enter the twelfth grade; third, to develop each student's ability to write clearly and expressively; and finally, to insure the development of students' skills in problem solving, methods of inquiry, inductive and deductive reasoning, synthesizing, and qualitative reasoning.

Evaluation Objective

The evaluation objective for the Townsend Harris program was:

- Eighty-five percent of the students would successfully complete all required course work.

Student Selection and Characteristics

Only those students promoted from Townsend's own ninth grade program in June, 1985 were eligible to participate in the tenth grade program during 1985-86. As of October 31, 1985, 217 of the 239 original ninth graders were enrolled in the tenth grade program. The remaining 22 students transferred to other schools either within or outside the city system.

The selection process originally used for the entering ninth graders in 1984 was based on student interest and academic achievement. Interviews, written essays, previous grades and reading and/or math scores were considered. Reading scores at or above 10.0 in grade equivalents and math scores at or above 9.0 in grade equivalents were required. School staff selected students from all five boroughs with the restrictions that 50 percent of the students be members of minority groups, and that no more than seven students be selected from any one locally zoned high school.

Staff

Chapter II funds were used to recruit 15 new personnel including ten teachers, a guidance counselor, two school secretaries, and two school aides. Other school staff, such as departmental heads, assistant principals, and librarians all provided services to the tenth grade Chapter II students although they were not paid with Chapter II funds.

Description of Courses

Students participated in eight classes a day including English, global history, economics, integrated math, Regents intermediate algebra, a modern foreign language, Latin, health education, physical education, Regents chemistry, and Regents biology. Additional elective courses such as computer programming, journalism, student leadership, science research, and sculpturing were also available. All academic classes met the requirements of an honors curriculum.

Enrichment Activities

Extracurricular activities were developed to support the humanities focus of the program. These enrichment activities were offered during the regular school day (one-hour periods on Tuesdays and Thursdays). Their purpose was to provide students with opportunities to sample topics already available or scheduled to be introduced as regular classes in the eleventh and twelfth grades. Topics included computers, drama, literary magazine, and student government. Other activities including weight training, aerobics, quilting, and yoga were provided as "tension outlets". In addition, Enrichment activities scheduled during 40 or 60 minute sessions before and after regular school hours were developed to supplement the school's regular enrichment program. The early morning program serves the needs of outer borough students who comprise approximately 20 percent of the student body. Many of these students arrive at school early each day. This pre-enrichment program affords them a chance to receive tutoring and enriched learning experiences.

Career Education

A variety of activities were utilized to increase students' career awareness. Harris staff, Queens College professors, Harris alumni and other community business representatives gave lectures periodically. A monthly newsletter provided information on careers related to a single subject (e.g., math, science). The Metroguide Computerized Career System was used to inform students of careers and schools related to their stated interests. Staff set up bulletin boards around the school to provide information about different occupations.

Internship

The internship program functioned during the summer recess. Available internship opportunities provided by Townsend Harris alumni and concerned members of the business community were presented in a brochure distributed during the month of April. These internships included opportunities such as assisting in a law firm, typesetting, switchboard operation, hospital work, receptionist, public relations work, and a variety of volunteer services.

Counseling Services

One counselor provided a variety of services to the 217 students. (This compares to the typical counselor caseload of one to approximately 400 students.) These services included individual counseling on issues such as scheduling, careers, and personal problems; "rap" and study skills groups; and meetings with parents when needed.

College Faculty Participation

Professors from the History, Physics, and Education departments of Queens College provided recommendations on which courses to offer and helped create the curriculum for those classes. They also provided a psychometrician who suggested means of selecting students and evaluating different aspects of the program. Queens faculty members conducted several training sessions attended by Harris staff at the college campus. A number of college faculty members visited Harris and team taught classes for Harris students. Other services provided by the college included guest speakers for career awareness, enrichment activities, college student mentors, and materials/services such as duplicating.

Staff Perceptions

Staff had very positive perceptions of students describing them as "very bright", "innovative and creative". Teachers involved in enrichment activities were impressed by the eagerness with which students attended early morning activities. Many of these students had to travel from other boroughs to arrive at Harris by 7:30 a.m. Staff perceived students as possessing the abilities necessary to meet the rigorous academic demands of the program. Several teachers commented on the large amount of pressure placed on students by these demands and praised the use of physical activity to release tension.

All of the staff interviewed had positive views of the curriculum. They considered courses "excellent" preparation for advanced study in the humanities. They stated that classes and enrichment activities were good opportunities to gain exposure to a variety of potential careers. The

staff also said that the two language requirements were "helpful, providing experience in dissecting words and developing analytic styles."

Several additional issues emerged during staff interviews. Teachers expressed some dissatisfaction with class scheduling, indicating they taught classes back-to-back with insufficient breaks. A major complaint concerned the need for additional space. Some classes met regularly in the corridor because of a lack of available classrooms. The school building itself is temporary and insufficient to meet the demands of the school. Administrators had several specific complaints including the need for funds to hire substitutes in order to free teachers to participate in training sessions at Queens College; to pay visiting speakers; and to hire consultants and technical aides for various purposes such as leading enrichment activities.

OUTCOME DATA

The general goal for the program at Townsend Harris was that students would significantly increase their knowledge of the humanities and develop an improved understanding of mathematics and science. The specific evaluation objective for the program indicated that 85 percent of the students would successfully complete all course work (i.e. humanities specialty areas, math, and science) as measured by spring term grades. The percentage of students passing courses during the spring term is presented in Table 2. As indicated in this table, 90 percent of the students successfully completed all of their required course work, thus meeting the evaluation objective. The percentage of students passing individual courses varied from 92 percent in Integrated Math to 100 percent in Spanish and French.

Table 2

Number and Percentage of Students at Townsend Harris High School Passing Courses During the Spring Term

Course	Number Enrolled	Number Passing	Percent Passing
English Literature	214	207	97
Intermediate Algebra	100	96	96
Integrated Math	115	106	92
Chemistry	125	115	94
Biology	89	84	94
Economics	214	207	97
French	83	81	98
Spanish	131	131	100
Latin	214	203	95
Passed All Subjects	214	193	90

- Students met the evaluation objective with 90 percent of the students in the program passing all of their classes.

CONCLUSIONS AND RECOMMENDATIONS

The program at Townsend Harris offered a rigorous course of study in the humanities. Curriculum included traditional honors level classes as well as additional learning experiences such as enrichment activities, an internship component, and career awareness presentations. The curriculum was designed to assure the development of problem solving skills and clear and expressive writing styles as preparation for college level courses. The program's success in developing students' knowledge of the humanities is evidenced in the exceptionally high pass rates in the honors level classes.

Highly motivated and intelligent students and a dedicated capable teaching staff were the primary strengths of the program. The participation of Queens College Faculty in the creation of curricula, provision of staff development and other related services (i.e. mentors, guest speakers) was another important component. The creation of a variety of mechanisms by which students were able to sample content areas and potential careers (i.e. regular classes, enrichment, and career education activities) was an additional program strength.

Several weaknesses were present in the implemented program. The amount of physical space available in the school was so limited that some academic activities were forced to meet in the hallways. A major impediment to staff development, was the lack of funds available for substitute teachers to fill in so that staff could attend training sessions. Similarly, funds were not available to purchase materials for use in enrichment activities and to attract guest speakers. The stress of the rigorous program also had an impact on both students and staff. Although several

CONCLUSIONS AND RECOMMENDATIONS

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Highly motivated and intelligent students and a dedicated capable teaching staff were the primary strengths of the program. The participation of Queens College Faculty in the creation of curricula, provision of staff development and other related services (i.e. mentors, guest speakers) was another important component. The creation of a variety of mechanisms by which students were able to sample content areas and potential careers (i.e. regular classes, enrichment, and career education activities) was an additional program strength.

Several weaknesses were present in the implemented program. The amount of physical space available in the school was so limited that occasionally some enrichment groups, practicing a variety of musical instruments, were forced to meet in the hallways. A major impediment to staff development was the difficulty in implementing procedures for obtaining release time so that staff could attend training sessions. Similarly, funds were not available to purchase materials for use in enrichment activities and to attract guest speakers. The stress of the rigorous

program also had an impact on both students and staff. Although several activities for the release of tension were provided to students, additional opportunities are necessary. Similarly, teachers experienced considerable stress from teaching classes back-to-back and meeting the obligations of additional enrichment activities and staff development. Some means of reducing this stress should be explored.

Based on the findings of the evaluation, the following specific recommendations are made:

- Increase the physical space available in order to provide a setting adequate for the enriched program.
- Free staff to attend development programs and purchase materials for use in enrichment activities.
- Develop additional stress reduction activities for students, and relieve some of the pressure on teachers to avoid the potential for later burn-out.

IV. PAUL ROBESON SCHOOL FOR BUSINESS AND TECHNOLOGY

PROGRAM STRUCTURE AND IMPLEMENTATION

Description

The Paul Robeson School for Business and Technology opened in fall, 1985. The school is located in the building which was previously the Alexander Hamilton Vocational and Technical High School. The building was undergoing extensive renovation during the 1985-86 school year. The program at Robeson was based on a proposal developed through the joint efforts of Robeson staff, students, parents, school board members, and representatives of local community associations. The curriculum was designed to offer a rigorous program of instruction in business and technology-related disciplines. Classes infused modern technology, career education, and computer applications across all subject areas. The program design included several innovative features. First, each student constructed a color computer. Second, each student completed a small project in each shop class relating directly to the world of business. Third, courses focused on computer repair, pre-engineering, marketing and accounting in the tenth, eleventh and twelfth grades. Fourth, the curriculum was designed to provide students with the opportunity to secure entry-level employment or enter a program of higher education. Finally, enrichment sessions and individual achievement plans were used to help students identify interests and better plan their education.

Evaluation Objective

The evaluation objective for the program at Robeson was:

- Seventy-five percent of the participating students would successfully complete the ninth grade program.

Student Selection and Characteristics

During the spring of 1985 Robeson administrators contacted feeder schools throughout Brooklyn announcing the opening of the school and describing its curriculum. Only ninth grade students were recruited for its initial year of operation. All applicants were interviewed by Robeson staff and selected if they demonstrated an interest in the fields of business or technology, a willingness to study, and a history of good attendance. No objective placement tests or other entrance criteria were utilized.

Staff selected a total of 272 students on the basis of these interviews. The standard 25-50-25 practice was followed with 25 percent of the students selected above, 50 percent at and 25 percent below grade level in reading. Approximately 17 special education students were admitted to this program. Special education classes were supported by tax-levy funds. Special education students were mainstreamed for approximately 75 percent of their classes.

Staff

The program provided funds for 37 new personnel including a principal, an assistant principal, a guidance counselor, two library teachers, eighteen content area teachers, four school secretaries, a machinist, two paraprofessionals, and seven aides. At the beginning of the year, administrators decided to convert several teacher lines into positions for four assistant principals. One assistant principal oversaw business classes and related activities, another performed the same duties for technology classes. An assistant principal for administration was assigned to set up the program, and organize supplies and equipment. An assistant principal

for pupil personnel oversaw all guidance activities. The reduction in teaching staff did not decrease the number of teachers below that needed to meet the requirements of the curriculum. Per-session teachers organized and supervised clubs, and provided coverage enabling teachers to attend staff training sessions.

Description of Courses

Students were programmed for eight periods a day including English, math, social studies, science, a foreign language, physical education, music, an introduction-to-occupations component, and rotating shop modules. Approximately 25 percent of the social studies, English, math, and Spanish classes were honors level classes. All students were required to enroll in the introduction-to-occupations component which consisted of two classes for each of the two terms. These classes focused on topics such as "Key-boarding" and "Personal Business Management." The rotating shop modules included electronics and wood shops. The electronics shop class provided instruction in basic soldering skills. Students built transistor radios and constructed small computers from kits (most but not all completed these computers). In wood shop students learned measurement techniques and power tool skills while constructing a wooden device designed to protect terminals against vandalism and theft. A marketing and accounting shop module was also designed. Robeson staff hope to receive funds to implement this module in fall, 1986.

Enrichment Sessions

A variety of different types of enrichment and remedial activities were offered to interested students. Peer tutoring classes were provided

each morning for those students in need of remedial work. Students interested in enrichment participated in afternoon clubs including newspaper, drama, engineering, dance, fashion design, Hispanic culture, and two business clubs ("Distributive Education" and "Future Business Leaders of America"). Several student activities such as youth leadership organizations and the academic olympics were run by students themselves under teacher supervision.

Beginning in February, Wednesdays were designated as FINE days (Focus on Individual Needs and Excellence). Administration created FINE days to provide enrichment and extra support activities. On these days students followed schedules which differed from their regular programs. A variety of elective classes were offered including creative writing, electronics, computer literacy, basic programming, advanced keyboarding, business entrepreneurship, introduction to research, law, leadership, testing skills, wood design, and intramural sports. Students selected classes for the day which served as introductions to specific careers. Double periods in these classes provided ample time to sample new options. Extra support classes in math and reading were available for students in need of assistance. Counselors spent FINE days meeting with students determining career goals and discussing individual counseling issues. Outside speakers made career presentations and Robeson teachers attended conferences and specialized training/staff development sessions. Examples of training sessions attended by teachers included "Shearson Lehman Partnership at John Dewey High School" and the "Pilot Project in Guidance at Erasmus Hall High School".

Career Education

Several activities were organized to increase student awareness of business and technological careers. All students were administered a vocational interest inventory (JOB-O). The results of these inventories served as a basis for discussion of career interests. Periodic guest speakers, posters, and display cases throughout the school provided information on specific occupations. Examples of topics of guest presentations included "Resumes and the World of Work", "Careers in the Stock Exchange," and "Self-Awareness and Self-Evaluation (Preparing for Interviews)". Students also had access to the Metro-Lab system, a method of matching their interests to potential careers. Additional information and assistance in selecting careers was available during FINE days.

Individual Achievement Plan

A comprehensive planning record was created for each student based on information obtained during individual counseling sessions and FINE day activities. These records contain information on interests, aptitudes, achievement, career goals, course programs and basic skills mastered. Staff used these records to assign students to one of three general tracks (i.e., college, marketing, computer repair) and to select courses related to the student's interests and abilities. Information will be added to each student's plan throughout their time in the school and they will serve as a basis for future course selection and career advisement.

College Faculty and Business World Participation

While there are no active linkages to colleges at this time, several schools (Medgar Evans, Kingsborough, Borough of Manhattan Community

College) are scheduled to provide services when Robeson students enter the eleventh and twelfth grades. A scheduled special cooperative program with Tandy Radio Shack was cancelled because of changes in administrative personnel within the corporation. Business consultation groups included individuals from the Comptroller's office, the Board of Education's Office of Curriculum and Instruction, the Police Department, and other local businesses.

Counseling

One counselor provided services to all Robeson students. Individual and group guidance sessions focused on issues related to high school transfers, report card review, and program advisement. All students attended at least one group session addressing these issues. In addition, each student participated in a sequence of six integrated guidance sessions: three focused on career education, two on grade requirements and one on self-assessment.

Technology Infusion

Efforts were made to integrate computers and other forms of electronic technology into all aspects of the program. Computer instructed lessons were included in content classes whenever possible. Teachers were provided with staff training sessions dealing specifically with computer use. Teacher response was positive; most utilized this training whenever possible. Students were provided with additional opportunities to employ computers during activities such as the creation of a school newspaper. Other electronic equipment (i.e., videotape techniques) were employed for activities including drama classes.

Staff Perceptions

Staff perceptions of students were positive. Students were considered well motivated, particularly with respect to technology-related classes. Teachers reported that students felt they were learning specific marketable career skills. High-tech materials such as those used in the computer construction class (e.g. ampmeters and oscilloscopes) were considered motivating in themselves. Although previously students had varying levels of academic success, all of the teachers interviewed thought their students could handle the requirements of the curriculum. Behavior problems were reported to be rare.

Staff were satisfied with the structure and curriculum of the program. Most of the comments related to the technology component were positive. Several staff members suggested changes such as delaying the computer construction class until students entered the tenth grade and providing small electronics projects with more immediate rewards during the first year.

Several concerns emerged during interviews with staff members. Foremost was the need to modify the physical structure of the building to meet the requirements of the technical equipment. Many classrooms did not have the appropriate facilities (i.e. sinks and electrical outlets) preventing shop modules from beginning on time with adequate equipment. Staff believed that the program will prepare students only to the extent that the equipment and materials in classes match those employed in industry. The use of teachers with temporary licenses required that the school provide training without support from the school board. Building delays also created safety hazards and led to construction at inappropriate times.

Unless work is completed, insufficient space will severely limit the functioning of the program next year.

OUTCOME DATA

The general goal for the program at Paul Robeson was that students would increase their technological and academic skills and have a heightened awareness of technology-related career opportunities. The specific evaluation objective for the program indicated that 75 percent of the students would successfully complete the ninth grade program. The percentage of students passing courses during the spring term is presented in Table 3. As indicated in this table, 74 rather than 75 percent of the students successfully completed the ninth grade and were promoted to the tenth grade, essentially meeting the objective. The high percentage of students passing many of the individual classes (six out of eight classes had pass rates above 75 percent) further indicates success in the general goal of increasing the technological and academic skills of students.

Table 3

Number and Percentage of Students at Paul Robeson High School Passing Courses During the Spring Term

Course	Number Enrolled	Number Passing	Percent Passing
English	242	197	81
Social Studies	242	185	76
Foreign Language	160	141	88
Math	323[a]	218	67
Science	242	207	86
Industrial Arts	242	195	81
Physical Education	242	199	82
Introduction to Occupations	242	160	66
Students Promoted[b]	242	178	74

[a]Some students were enrolled in more than one math class.

[b]Students receiving nine or more credits during the entire year were promoted to the tenth grade

- Seventy-four percent of the students in the program were promoted to the tenth grade.

CONCLUSIONS AND RECOMMENDATIONS

The program at Paul Robeson was created to offer a course of study focusing on skills related to business and technology. The four year course of study was designed to prepare students to secure entry-level employment or enter programs of higher education in these areas. Elective classes covered topics including computer construction and repair, keyboarding, and personal business management. A variety of program components (i.e. enrichment sessions and individual achievement plans) were used to help students identify career interests and plan their education.

The program's philosophy of training students in the use of high-tech equipment using state-of-the-art equipment was its primary strength. The schedule of classes within the curriculum provides a sequential progression in which students develop an understanding of their chosen area of study. Guidance efforts to identify students' interests and link them to possible careers is a major asset.

Observed weaknesses of the program were primarily related to the ongoing renovations of the school building. Delays in installation of new facilities have prevented the implementation of several business and technology classes. Additional consequences of this construction, including disruptions of classes, sharing of rooms, and safety hazards, all increase the difficulties of implementing a new program, particularly one with requirements like those of high-tech equipment.

Based on the findings of the evaluation, the following specific recommendation is made:

- Modify the curriculum so that the time spent on basic electronics is increased before large scale projects (i.e. radio, computers) are undertaken.